

REVIEW AND APPROVALS

POTOMAC RIVER NATIONAL WILDLIFE REFUGE COMPLEX

ELIZABETH HARTWELL MASON NECK NATIONAL WILDLIFE REFUGE

Lorton, Virginia

OCCOQUAN BAY NATIONAL WILDLIFE REFUGE

Woodbridge, Virginia

FEATHERSTONE NATIONAL WILDLIFE REFUGE

Woodbridge, Virginia

ANNUAL NARRATIVE REPORT

Fiscal Years 2009

Refuge Manager Date

Refuge Supervisor – South Review Date

Regional Office Approval Date

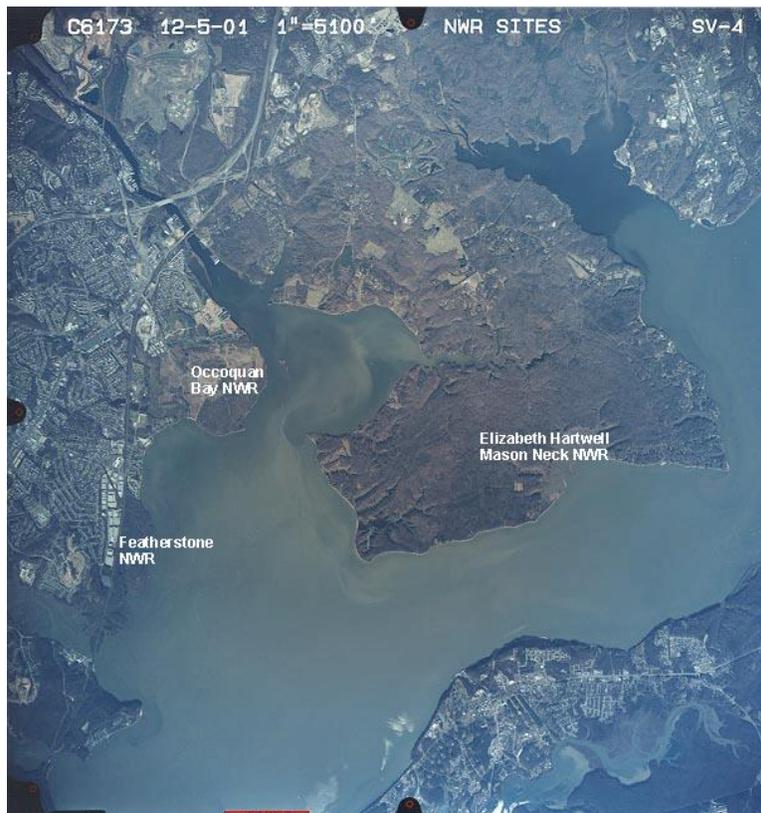
POTOMAC RIVER NATIONAL WILDLIFE REFUGE COMPLEX

Woodbridge, Virginia

INTRODUCTION

In 1998, Elizabeth Hartwell Mason Neck National Wildlife Refuge, Occoquan Bay National Wildlife Refuge, and Featherstone National Wildlife Refuge, were reorganized into the Potomac River National Wildlife Refuge Complex. Reasons for the reorganization were the realization that Occoquan Bay NWR (National Wildlife Refuge) rivaled Elizabeth Hartwell Mason Neck NWR in complexity and to better apportion staff and resources to the needs of the three refuges. All three refuges border Occoquan Bay at the junction of the Fairfax County and Prince William County. Elizabeth Hartwell Mason Neck NWR (on the northeast side of the bay) is the oldest refuge, being established in 1969 and the largest at 2,227 acres. As the first national wildlife refuge specifically established under the Endangered Species Act for bald eagles, its focus is on forest, marsh, and riverine habitat important to the bald eagle. On the southwest side of Occoquan Bay is Featherstone NWR, 325 acres of marsh and riverine habitat important to both waterfowl and eagles. Occoquan Bay NWR is on the west edge of the bay between the other two refuges and is the most recently established of the three. It was established in 1998 as a combination of land previously acquired as Marumsco NWR and recently acquired military surplus lands to form the new 640 acre refuge. Its primary values are the extensive grasslands interspersed with marshes and early successional shrub and forest areas with value to neotropical migrants and grassland dependent species.

The office for the complex is located in Woodbridge, Virginia, about 9 miles from Elizabeth Hartwell Mason Neck and a mile from Occoquan Bay and Featherstone Refuges. The office is a store front managed rental space in a small strip mall.



ELIZABETH HARTWELL MASON NECK NATIONAL WILDLIFE REFUGE
Mason Neck, Virginia

INTRODUCTION

Elizabeth Hartwell Mason Neck National Wildlife Refuge is located in Virginia, 18 miles south of Washington, D.C. Nestled on an 8,000 acre boot-shaped peninsula jutting out into the Potomac River; the refuge is dominated by mixed hardwood and pine forests, high bluffs, and about 300 acres of freshwater marshes. From the initial acquisition of 845 acres in 1969, Mason Neck has grown to 2,277 acres, including 7789 acres leased in 1982 from the Northern Virginia Regional Park Authority. Until 1974, the Mason Neck National Wildlife Refuge was a subunit of Blackwater National Wildlife Refuge, based out of Cambridge, Maryland. Mason Neck then became an independent unit with a manager and two subunits of its own, Featherstone NWR and Marumsco NWR (which later became Occoquan Bay NWR).

The refuge was established in 1969 as the Nation's first bald eagle refuge using funds provided under the Endangered Species Act. Eagles nested and wintered on the peninsula as far back as colonial times but in the 1950's and 1960's, succumbed to development and pesticides. With greater awareness, better protection nationally and regionally of the birds and their habitat, and reduction in pollution, the eagle population has been making a recovery. In 1999, there were 3 eagle nest sites on the refuge, one on the adjacent state park, one on the adjacent Gunston Hall Plantation, and two on private lands elsewhere on the peninsula. In an expanding ring, there are at least 3 more nests within a five mile radius on the Virginia side of the Potomac River and reports of several more nests on neighboring Maryland lands.

Although the refuge is located within driving distance of approximately 10 million residents of Virginia, Maryland, and Washington, D.C., the refuge's annual visitation is only around 20,000 people. Low visitation may be due to the limited amount of public use facilities or the fact that there are over 400 nearby Federal, state, regional, county and community parks. On the Mason Neck peninsula alone, the refuge is bordered by the Bureau of Land Management, Mason Neck State Park, Gunston Hall Plantation, and Pohick Bay Regional Park. Together in a loose association entitled the Mason Neck Management Area, the federal, state, and regional government agencies can share manpower and material resources and minimize duplication of effort by coordinating recreational activities. Each agency can focus on its strengths of general recreation, outdoor or wildlife dependent recreation, resource protection, and historical interpretation. Collectively the Mason Neck Management Area ensures that the public has the opportunity to enjoy a variety of activities without diminishing the purposes for which we were all created.

On August 14, 2006 the refuge name was officially changed to "Elizabeth Hartwell Mason Neck National Wildlife Refuge" to honor the significant contributions to conservation by Elizabeth Hartwell. Ms. Hartwell, a resident of Mason Neck and a conservation activist, spearheaded the movement to protect habitat on the Mason Neck peninsula.

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A. HIGHLIGHTS

B. CLIMATIC CONDITIONS

C. LAND ACQUISITION

1. Fee Title
2. Easements
3. Other

D. PLANNING

1. Master Plan
2. Management Plan
3. Public Participation
4. Compliance with Environmental Mandates
5. Research and Investigations
6. Other

Mason Neck- Cultural Resources

On April 16, Marty McClevey facilitated a visit to Sycamore Point by Mrs. Florence Clark of Fredericksburg. Mrs. Clark was born on the Neck at the High Point Farm where she lived with her 12 siblings for 6 years. Gary Knippling, Lynwood Gorham, Christine Schreiner, and Janet Cole also joined the visit. Mrs. Clark was shown a 1927 aerial photo of this area and was asked specific questions related to the history and farm life. Mrs. Clark showed us the barn site, well, creamery site and her old home site. We walked to the river and found the bench mark buried in the sand off shore with the Shelton name embossed in the brass plate. Mrs. Clark provided us with a hand drawn sketch of the farm site adjacent to where she was born. We found a shoreline benchmark with the name of the Shelton Farm embossed on it. This marker had washed into the river. At some point, the marker will be collected for storage.

Mason Neck- Museum Property

On Wednesday April 29, 2009, Mr. Mustafa Hassan met with Ranger Marty McClevey to inspect the storage, handling, facilities and management plans for the museum property related to the Elizabeth Hartwell Mason Neck National Wildlife Refuge. Mr. Hassan asked to see the artifacts held for Mason Neck. He was shown the locked storage cabinet and the Hollinger

boxes in which the artifacts are specifically stored. He requested an inspection of the following documents:

Departmental Checklist Report
Basic Security Protection
Fire Protection Plan
Integrated Pest Management Plan
Environmental Control Plan
Annual Emergency Management Plan
Current Collection Storage Plan
Written Handling Procedures

He inspected the bald eagle mounts at the Visitor Contact Station and requested information on a housekeeping plan, climate control and temperature and humidity monitoring. Mr. Hassan was polite, professional and informative.

E. ADMINISTRATION

1. Personnel

- Greg Weiler, Refuge Manager, GS-13, EOD 11/23/97 from WASO Arlington VA, PFT
- Daffny J. Hoskie, Deputy Refuge Manager, GS-11, EOD 11/16/03 from Back Bay NWR Virginia Beach VA, PFT, GS-11 effective 06/12/05
- Stacie Allison, Administrative Assistant, GS-7, EOD 8/10/03, PFT
- Marty McClevey, Park Ranger, GS-9, EOD 1/17/99 from NPS, PFT GS – 9 effective 08/21/05
- Steve Boska, Maintenance Supervisor, WG-10, EOD 8/26/90, PFT, WG-10 effective 09/18/05
- Gareth Williams, Refuge Law Enforcement Officer, GS-9, EOD 2/19/06, PFT
- Patricia Wood, Park Ranger, GS-2, EOD 3/1/09 – Present, PT STEP Intern
- Jason Murray, Laborer, WG-2, EOD 5/17/09 – 8/21/09, STEP Intern

Meetings and Travel Sessions for refuge personnel not listed elsewhere:

January 15 – January 17, 2009	Law Enforcement Waterfowl Assistance Delaware NWR Complex, Milford, DE; Williams
February 1 – February 3, 2009	Partners Outdoors Conference Cambridge, MD; McClevey
February 21 – February 23, 2009	National Friends Conference Washington, DC; Hoskie
March 1 – March 13, 2009	Firearms Instructor Training Program, FLETC Brunswick, GA; Williams
March 2 – March 6, 2009	Regional Project Leaders Meeting Virginia Beach, VA; Hoskie and Weiler

March 16 – March 20, 2009	Comprehensive Conservation Plans Course, NCTC Shepherdstown, WV; Hoskie
March 16 – March 18, 2009	Heavy Equipment Training, Blackwater NWR, Cambridge, MD; Volunteer Kreticos
March 24 – March 25, 2009	Virginia Project Leaders Meeting Gloucester, VA; Weiler
March 30 – April 6, 2009	Law Enforcement In-Service Training, NCTC Shepherdstown, WV; Williams
April 13 – April 17, 2009	Maintenance Workshop Philadelphia, PA; Boska
June 8 – June 12, 2009	National Planning Workshop, NCTC Shepherdstown, WV; Hoskie
June 22 – June 24, 2009	Bushmaster Armor School Philadelphia, PA; Williams
August 4 – August 7, 2009	SORT Training, NCTC Shepherdstown, WV; Williams
August 4 – August 7, 2009	Environmental Compliance Training, RO Hadley, MA; Weiler
August 17 – August 18, 2009	Ohio River Islands NWR Field Trip – VCS Marietta, OH; Weiler
August 25 – August 26, 2009	Chesapeake Bay Project Leaders Meeting Annapolis, MD; Hoskie and Weiler
September 8 – September 11, 2009	HQ & VCS Design Meeting Shirley, NY; Weiler
September 29 – September 30, 2009	HQ & VCS Design Meeting Shirley, NY; Weiler

2. Youth Programs

Ranger McClevey worked closely with the staff of Freedom High School in Woodbridge to provide opportunities for students to participate in volunteer projects. Prior to the annual Fall Festival, youth from the Woodbridge Stake of the Church of Jesus Christ of Latter Day Saints provided invaluable assistance in sprucing up the refuge. No Boy Scouts or Girls Scouts participated in programs or projects on the refuge this year.

3. Other Manpower Programs

Due to other commitments and budget cuts, there were no AmeriCorps projects completed at Mason Neck or Occoquan Bay. Volunteers were actively sought and recruited through the local criminal justice system community services programs of Prince William and Fairfax County. Two individuals from the region participated in this opportunity working under the supervision of Maintenance Worker Steve Boska. Projects completed included routine maintenance and recycling, vehicle servicing, trail maintenance, lawn mowing and sign installation. We will continue to seek community service workers.

4. Volunteer Program

Volunteers continued to serve in many capacities at the three refuges of the complex. Accomplishments by volunteers included invaluable assistance at two cleanups, three large special events, trail construction projects, biological data collection and assistance at our white-tailed deer management hunts. Volunteers worked individually and as members of larger groups such as the Latter Day Saints Church, the Compass 4H Club, the students of Freedom High School and ExxonMobil Corporation.

On Saturday September 26, Volunteer Coordinator Marty McClevey hosted the volunteer recognition dinner and awards social. The dinner took place at the Painted Turtle Pond pavilion at the Occoquan Bay Refuge. Starting at 6:30 with Dixie Bones barbeque, Marty presented hour awards to those in attendance and announced the selection of Bill Supulski and Dot Lamolinara as the volunteers of the year. After the presentations, everyone sat around a fire pit and shared stories. This was a special time for all.

Bill Supulski and Dot Lamolinara were recognized as joint volunteers of the year for Fiscal Year 2009 for their work as a couple in the creation of an educational handout for the Occoquan Bay migratory songbird banding station, an innovative mockup of the soon to be refurbished Elizabeth Hartwell Mason Neck Refuge brochure and the new Occoquan Bay NWR Visitor Information tear sheet. Bill and Dot each were recognized for completing over 500 cumulative hours of volunteer service as banders at the Mason Neck MAPS station and the Occoquan Bay NWR migratory songbird banding station. Larry Brindza a long time volunteer for the Complex, was recognized as volunteer of the year for FY 2008 for his outstanding work in the research of the monarch butterfly.

On Sunday July 19, Marty presented certificates and a plaque to the Compass 4 H group at Prince William Forest Park for their work in helping with Merrimac, Eagle Fest and fishing event.

Maintenance: Two specific individuals, Paul Dodd and Cindy Kreticos, played significant roles in providing assistance in maintenance. Cindy, who obtained tractor training last year was able to complete mowing assignments throughout the Complex as well as assist with recycling, road maintenance, trail maintenance and most importantly, organizing and cleaning the entire maintenance shop. Paul independently assisted in water level regulation at the High Point Creek and Little Marsh Creek dikes. Two individuals completing court required community service also assisted on a variety of projects including general maintenance and sign installation.

Visitor Services: Members of the Compass 4H club of Woodbridge, provided invaluable assistance at the Eagle Festival. The greatest challenge for the volunteer programs was the recruitment and coordination of individuals to serve at the National Trails Day Event held on June 6. Volunteers were directed to assist on specific trail construction projects on the Mason

Neck peninsula as well as assist as greeters and workers for the featured program for dignitaries, held on the grounds of the State Park Visitor Center. . A section of the Woodmarsh Trail at Eagle Point was closed and rehabilitated by the hard work of refuge volunteers. This project took place on June 6 at the National Trails Day event. Kevin Kilcullen and Nathan Caldwell, from the Arlington Office were notable volunteers who assisted with the project.

Bill Supulski and Dot Lamolinara completed a draft of a revision of the Mason Neck refuge brochure.

Biological Program: Volunteers assisted on the three days of white-tailed deer hunting by serving at the deer check station. Bill Mitchell returned again this year for over a decade of volunteer work at our hunts. Marc Ingram a Park Ranger with the Mason Neck State Park, completed mandatory service hours credit towards his Master Naturalist certification by assisting at the deer check station over the course of the three days. This was the second year that credit was given to volunteers for completing MAPS banding on the refuge. The work completed by these volunteers lended significant biological information and direction for the completion of the Comprehensive Conservation

5. Funding

<u>Fiscal Year</u>	<u>Appropriation</u>	<u>Source</u>
2009	\$ 284,780.02	1261
2009	\$ 136,785.96	1262
2009	\$ 225,636.30	1263
2009	\$ 83,645.87	1264
2009	\$ 11,673.45	Other Appropriated Funds

Revenue sharing checks were delivered to Fairfax County and Prince William County.

6. Safety

On October 15, the Regional Manager of Safety and Health conducted a Safety and Occupational Health Assessment. The general synopsis of the assessment was “Although there are some minor deficiencies, in general this was an excellent inspection and the office and work environment are in great shape.”

In November Maintenance Mechanic Boska completed the on-line course Universal Waster Rule Training.

In December, the Staff watched two videos, one on Material Safety Data Sheets, MSDS; the other video related to “Computeritis” or injuries resulting from repetitive motions of using a computer keyboard and prolonged sitting at a work station. A discussion followed.

In February, the Staff viewed operator training videos for the Toro Workman Utility Vehicle and the Deere Gator. A discussion followed.

7. Technical Assistance

This year the entire region participated in upgrading desktop computers within refuges. Our Complex requested all computers be replaced.

On December 22nd, the failure of the transmitter in the satellite system at the shop resulted in disruption of on-line internet service. A new router and air card were installed at maintenance shop, however, it was difficult to get the router to work with the air card on the desktop computer. To ensure some service and connectivity, the service was connected to a lap top.

In February, a new computer came in and was installed for Assistant Manager Hoskie.

Service was finally restored at the shop in March, and Maintenance Mechanic Boska was backed to business as normal.

In March, a new computer came in and was installed for Office Gareth Williams. Officer Williams also received an external hard drive to use for backing up files. Before it could be utilized it was sent to the regional office for encryption and was utilized when it was returned.

In April, a new computer for Administrative Assistant Allison was delivered and installed.

In June, a new computer arrived and was installed for Refuge Manager Weiler. Also, all the computers at the maintenance shop were networked to work with the air card.

The year ended with the migration to Windows 2007 and the arrival of three new computers in July for Maintenance Supervisor Boska, Park Ranger McClevey, and an additional computer for the biologist position. IT Specialist, Tina Steblein installed all these computers in August.

8. Other Items – Nothing to Report

F. HABITAT MANAGEMENT

1. General

Located along the Potomac River and Occoquan Bay, the Refuge consists of 2,277 acres of the over 8,000 acre Mason Neck peninsula and consists of the following habitat types:

<u>Habitat</u>	<u>Acres</u>
Woodland	1,883
Wetland	364
Grassland	15
Brush	10
Administrative areas (i.e. buildings, parking lots)	5

Habitat management has primarily been directed at providing relatively undisturbed habitat for the bald eagles and maintaining and creating habitat for wintering and migrating waterfowl and other resident wildlife populations.

2. Wetlands

The wetlands are split between the broad Great Marsh fronting onto the Potomac in the arch of the boot shaped peninsula and High Point Creek, an impounded drainage system near the toe of the peninsula. The Great Marsh has several meandering creek mouths and is dominated by wild rice, spatterdock, and other open marsh species favored by a constant freshwater tidal exchange. High Point Creek is narrow, protected by forested promontories except at the narrow impounded (large dike) mouth with little exchange of water beyond storm surges and runoff.

High Point Creek was drawn down during late spring as much as it could be drawn down in an effort to provide better foraging opportunities for young eagles and great blue herons.

3. Forests

Upland hardwood forest (1,883 acres) is the predominant vegetative type on the refuge and the peninsula. The dominant deciduous species in the upland forest include: white oak (Quercus alba), chestnut oak (Quercus prinus), red maple (Acer rubrum), American beech (Fagus grandifolia), and yellow poplar (Liriodendron tulipifera). Virginia pine (Pinus virginiana) and loblolly pine (Pinus Taeda) constitute the principle conifer species. Thirty-six species of trees have been recorded on the refuge.



Mason Neck Forest

In 2009, we were fortunate enough to work with the Virginia Department of Forestry on several projects. One in particular resulted in the Forest Health and Condition Inventory and Assessment for the forest at Mason Neck. The Inventory was conducted and written by Jim McGlone, Urban Forest Conservationist and Terry Lasher, Assistant Regional Forester for the State of Virginia. T

4. Croplands – Nothing to report

5. Grasslands

Only about 15 acres of grasslands remain on the refuge. During colonial times and up to the early 1900's, numerous acres was used for agriculture (crops and dairy) and logging. Natural succession has converted the grasslands into hardwood forests leaving basically a monotypic habitat of mixed hardwoods with small patches of conifers. Most of the refuge has not been logged in last 40 to 50 years and some areas on refuge have stands of 100+ year old trees.

Grassland management activities are directed at rotational and cyclical mowing of designated fields. One-third (approximately two acres) of the environmental education field is mowed annually as part of a three year rotational strip mowing program designed for educational interpretation and habitat diversity. Maintenance worker Steve Boska mowed the Environmental Education field and the old dairy area at the end of Sycamore Road to maintain these grasslands. Other areas mowed included the weather station field near the maintenance shop and the old home site at the end of Anchorage Road.

6. Other Habitats – Nothing to Report

7. Grazing – Nothing to Report

8. Haying – Nothing to Report

9. Fire Management

On October 30, 2008, a small fire occurred along the power line within the Refuge. A visitor reported to a Mason Neck State Park employee that a small tree fell on the power line and started a small fire. Mason Neck State Park personnel responded and extinguished the very small fire.



Fire Along Power line

10. Pest Control

From September 1 through September 4, Ranger McClevey conducted invasive control work at the Heron Colony of the refuge. This colony is located on a bluff adjacent to the High Point Creek dike. McClevey utilized the new 4 wheel drive gator and two 25 gallon electric pump spray tanks to deliver over 200 gallons of glyphosate to 4 acres of mile a minute. The temperature and humidity was well below normal for this time of year which made the spray operations more productive and tolerable. The gator performed well in the undulating terrain but required more corridor clearing because of its size. On September 4, sites sprayed earlier in the week were dying back. The tenacity of mile a minute and its abundant seed production will make this a troublesome plant for many years to come. All sites will need to be sprayed each year until the seed source has been exhausted.

A new invasive was discovered on the refuge at the Great Marsh Parking lot. Wineberry was found off the parking lot. The plant which resembles blackberry was found in a small colony but had flowered and spread seeds for the year. This plant will be targeted in future spray operations.

Insert Lexington site spray project here.

On July 15, Marty McClevey and Marc Ingram Park Ranger at Mason Neck State Park coordinated the control spraying of Japanese stilt grass (*Microstegium vimineum*) on the Lexington site of Mason Neck State Park in Fairfax County, Virginia. Marty McClevey, Park Ranger for the Potomac River National Wildlife Refuge Complex and a Virginia State certified pesticide applicator (certificate number 101550-G), mixed the formulation and monitored the spray operation.

Spraying began at 1030 hrs and continued until 1500 hrs. Weather: partly cloudy, mid-80's all day, humidity approximately 30 %, winds less than 4 mph. Four summer maintenance workers assisted with the project. Three individuals operated backpack pump sprayers. Marc and one maintenance worker operated the Gator and electric sprayer. Individuals involved in the spraying and mixing of chemical were required to wear long sleeved shirts, nitrile or rubber gloves and safety glasses. A safety briefing was presented by Rangers McClevey and Ingram in which wearing of PPE was emphasized and instructions for proper laundering of contaminated clothing was provided to workers.

Application Record – July 15

210.5 ounces of concentrate

108 gallons of water/mix

Approximately ¼ to ½ ounce of purple dye was added to each tank as a marker.

Approximately 3 acres were sprayed.

Comments:

Beefsteak plant (*Perilla frutescens*) which had dominated the site last year was present in small quantities. Stilt grass was present in isolated colonies throughout. Mile-a-minute vine (*Polygonum perfoliatum*), which was treated last year at two locations had recovered and re-occupied the same sites and spread to additional portions of the house site. Two groupings of orchids were again found on the site on one of the ramps to the northwest and near the bottom of each ramp. The site has an abundance of black and honey locust trees with root sprouts, redbud, walnut and paw-paw. Tulip poplar seedlings were found throughout. We specifically targeted mile-a-minute. Dead stems and stalks of Beefstake plant which dominated the site last year were found throughout indicated a significant dieback due to the spray operation. It should be noted that all herbaceous plants and grasses on the top flat portion of the site were under drought stress due to the low precipitation recorded for June and July. It should also be noted that the spray operation may also be impeding the regeneration of other herbaceous plants but not tree seedling regeneration.

A purple dye was added to the electric sprayer tank and the first mix for each tank to aid in marking the spray areas. We found it to not be as helpful and discontinued the use. It is especially damaging to clothing and stains the user. The concentrate used this year was held at 2.5 ounces per gallon. It is evident that beefstake can be controlled at lower percent rates of application. This is most likely due to the succulent nature of the plant. Stilt grass is much more resilient and requires at least 2.5 to 3 ounces per gallon. All participants wore long nitrile gloves.

In future operations, all participants who use backpack sprayers should be equipped with calf height rubber boots and rain or spray suit jackets.

A new invasive was identified but not treated on site. The plant with the common name of wineberry (*Rubus phoenicolasius*) was misidentified as purple flowering raspberry (*Rubus odoratus*). Found at a parking lot off site and identified as wineberry, this plant and any others found on refuge and State Park lands will be targeted in future spray programs. The plant has a resemblance to blackberry but has reddish hairs along the stalks. A raspberry type fruit is produced which matures into a hard, reddish seed. The plant found at Lexington is at the top of one of the large earthen ramps leading up to the home site.

Ranger McClevey conducted spray operations at the heron colony from August ----to---. He utilized the new JD gator HP... with a 25 gallon electric spray tank. ...gallons of chemical mix was sprayed over approximately 4 acres of mam on the site. The presence of mama is a huge problem and will grow as a problem in years to come.

(Insert Report here)

11. Water Rights – Nothing to Report

12. Wilderness and Special Areas – Nothing to Report

13. WPA Easement Monitoring – Nothing to Report

G. WILDLIFE

1. Wildlife Diversity

Mason Neck is located just 18 miles south of our Nation's capital and is adjacent to a rapidly growing metropolitan area where habitat is constantly being altered and degraded. The Refuge is located at the end of a boot-shaped peninsula which extends out into the Potomac River and provides a relatively remote area of upland forests and freshwater marshes which are frequented by a diverse group of wildlife species. The monotypic mature upland hardwoods, freshwater marshes, and small grassland areas which comprise the Refuge habitat hosts over 211 species of birds, 31 species of mammals, and 44 species of reptiles and amphibians.

2. Endangered and/or Threatened Species

The primary objective for which the refuge was established was to protect essential nesting, feeding, and roosting habitat for the Bald Eagles (*Haliaeetus leucocephalus*). There are three primary or historic areas for nesting activity on the refuge: the Great Marsh, the heronry and Potomac River shoreline near High Point, and the middle and upper reaches of High Point Creek. Other significant areas in the vicinity of the refuge are the roost and a nest site on Kanes Creek in the neighboring state park, a nest and roost on the north border of the refuge and Gunston Hall, a nest site between Gunston Manor and Hallowing Point communities, and a nest site on undeveloped land on the north portion of the peninsula.

Historically, the eagles abandoned the nest near the heronry and moved out in along the shore between Anchorage and High Point. Though active for three years, the nest in the heronry

seemed in conflict with the herons and the High Point Creek Nest so the move was not surprising. In 2002 the occupied breeding site was abandoned and has not been occupied since.

As in the past, portions of Woodmarsh Trail beyond Eagle Point were closed mid December and reopened in late June early July. The trail has closed every year since 1994, when the nest was discovered.

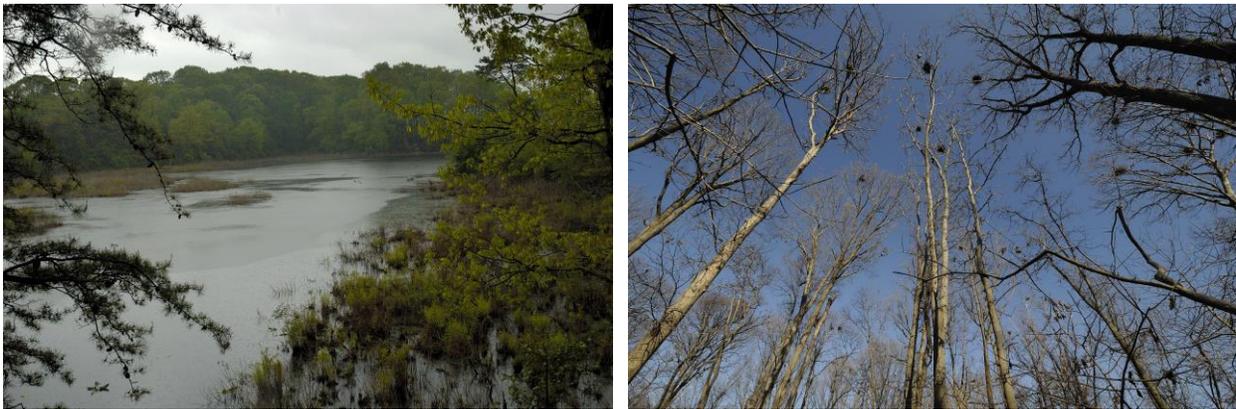
3. Waterfowl

Although Mason Neck is out of the mainstream of the Atlantic Flyway, the refuge, as part of a series of small marshes along the Potomac River, provides migrating and wintering habitat for dabbling and diver ducks. Over 20 waterfowl species have been reported on the refuge. Tundra swans and snow geese, while not numerous, are new additions to the list and have become regular winter visitors in the last six years. Rafts of canvasback, lesser and greater scaup, ruddy ducks, mergansers, and buffleheads are frequently seen offshore.

Ducks Unlimited Northern Virginia Chapter under John Minger continued to maintain wood duck boxes along High Point Creek, the Little Marsh Creek impoundment and the Great Marsh.

4. Marsh and Water Birds

Historically, marsh bird surveys were conducted at Elizabeth Hartwell Mason Neck and Occoquan Bay National Wildlife Refuges in June and July of 1999 using two passive listening intervals (initially a 0-5 minute period and 1-minute final period) and in-between a broadcast response (playback) portion. Only two species of colonial waterbirds (Great Blue Heron and Great Egret) have been identified on the refuge. The population size of the colony in the southwest corner of the refuge has grown from 30 nests in 1979 to over 1,500 in the last few years. During this interval the reproductive potential for the herons in the colony has varied considerable, and maybe related to weather factors prior to fledgling in June (*Waterbirds* 29(3):345-348, 2006).



Little Marsh and Heron Rookery

5. Shorebirds, Gulls, Terns, and Allied Species – Nothing to Report

6. Raptors – Nothing to Report

7. Other Migratory Birds – Nothing to Report

8. Game Mammals

The deer are in relatively good health with multiple sets of twins and few pied bald deer being observed occasionally on the refuge. Information about the whitetail deer hunt is listed in the public use section.

9. Marine Mammals – Nothing to Report

10. Other Resident Wildlife

Wild turkeys have been seen on a more frequent basis near the end of Sycamore Road, the end of Anchorage Road and along High Point road near the head of Little Marsh Road. It appears, based on frequency of sightings that the turkey population may be increasing.

11. Fisheries Resources - Nothing to Report

12. Wildlife Propagation and Stocking - Nothing to Report

13. Surplus Animal Disposal - Nothing to Report

14. Scientific Collections - Nothing to Report

15. Animal Control - Nothing to Report

16. Marking and Banding

The Institute for Bird Populations from Port Reyes Station, California continued operating two Monitoring Avian Productivity and Survivorship (MAPS) stations on Mason Neck, which were started in 1995. The refuge was involved as part of a partnership with nearby Ft. Belvoir letting the refuge piggyback on a military program “Monitoring Avian Productivity and Survivorship (MAPS) Program on Military Installations and other Federal Lands in the Midwest and East: ...” The refuge’s stations are Mason Neck-1 located on Sycamore Road near Old Barn Road and Mason Neck-2 on Little Marsh Road northwest of the High Point eagle nest. Volunteers, trained by IBP, operate the stations and conduct an average of 8 banding sessions between May and August each summer. The 2008 field season resulted in 59 birds being newly banded with 11 recaptured from previous years at Mason Neck-1 site; and 66 birds being newly banded with 12 recaptured from previous years at Mason Neck-2 site during.

MAPS Banding Station

Volunteers operated a MAPS station off Little Marsh Creek Road and Sycamore Point Road. The station has been in operation during the summer months for several years. The station has provided invaluable data on breeding birds at the two locations. Joanna Taylor, station coordinator provided the following information during this year’s banding program.

“It was a pretty humdrum day at MAS1 with one notable exception. We recaptured an Eastern Wood-pewee that we banded as an ASY in June 2002. According to the Patuxent Bird Banding lab, that makes him at least 3 yrs old when banded. (They count all birds as having a June birthday.) Add onto that

almost 7 more years and that makes him at least 9 yrs. and 11 mos. old. According to Patuxent's longevity records, their oldest so far is 7 yrs. and 1 month. You can check it out at:

<http://www.pwrc.usgs.gov/BBL/homepage/longvrec.htm>

How exciting is that? He looked good for another ten years. “

Biologist Joe Witt conducted the annual heron colony nest count in November. All indications from count results indicate that the number of nests are steadily declining from year to year. Forteen volunteers assisted with the count.

17. Disease Prevention and Control

Chronic Wasting Disease was detected in deer herds in several states in the Region in 2005. In 2006, CWD was detected in deer near the West Virginia/Virginia state line. The refuge is in a medium risk area based on distance to known CWD areas and captive cervid herds. A CWD Surveillance and Contingency Plan was developed for the Complex in 2006. Based on the State CWD plan, detection within a 5 mile radius will result in increased surveillance and sampling of the deer herd. Additional cases will result in the designation of a Population Reduction Area and the refuge would work with the State and Counties to implement herd reduction.

The Refuge also completed an Avian Influenza Surveillance and Contingency Plan in response to the threat of H5N1 occurring in the migratory bird population on the east coast. Marty McClevey attended an avian influenza conference at the John Heinz refuge in Philadelphia. Biologist Brenda Phillips went over basic disease concepts and defined pandemic and the evolution of viruses. Attendees discussed the Spanish flu outbreak of 1918, Asian flu of 1957 and the Hong Kong flu of 1968. It was learned that 35,000 people die from the flu each year in US. They stressed the congregating of birds in the arctic as a potential blowup site for the spread of avian flu through wild birds. Domestic poultry operations are a considerable risk for outbreaks. The session went on for two days. McClevey returned and briefed the staff on the current news and means of addressing outbreaks. The region purchased special avian kits with disposable suits, masks and gloves to be used in the event of an avian flu incident.

H. PUBLIC USE

1. General

Elizabeth Hartwell Mason Neck- National Trails Day:

In early May, Manager Greg Weiler was approached by the American Hiking Society in regards to our selection as the site for the 2009 National Trails Day observance. Ranger Marty McClevey was assigned the task of determining the purpose and specific needs for the event and arrange planning meetings. Marty met with Kim Hutson, Heather Sable of the American Hiking Society and Jeff McCusker of the BLM Meadowood site to discuss the National Trails Day event on Neck. Nathan Caldwell, the Service's Trails Coordinator agreed to host the signature trails day event on a National Wildlife Refuge. Since the Hartwell Mason Neck Refuge was proximal to Washington, he emphasized the site as a prime choice for hosting the event. One emphasis proposed for this year's event was accessibility.

National Trails Day *Signature* Event- June 6, 2009

On Saturday June 6, 2009, the Potomac River NWR Complex partnered with the American Hiking Society to conduct the Signature National Trails Day event for the Country at the Elizabeth Hartwell Mason Neck National Wildlife Refuge.

National Trails Day events take place across the country in June to bring an awareness of the importance of trails as well as to provide a day in which the public can join in maintaining, constructing and dedicating trails. The U.S. Fish and Wildlife Service was the host agency for this year's event.

Ranger Marty McClevey worked closely with Heather Sable and Kim Hutson-De Belle from the Society to coordinate this event as well as ensure viable work projects were available in which guests could participate on that day. Ranger McClevey coordinated specific projects with the Mason Neck State Park, the Pohick Bay Regional Park, the Bureau of Land Management's Meadowood Recreation Area and the Elizabeth Hartwell Mason Neck National Wildlife Refuge. Ranger McClevey provided updated information on emergency management and law enforcement issues to Fairfax County EMS and Refuge Officer Gareth Williams. Ranger McClevey also worked with Mark Newcastle in the Service's printing office to create a banner utilizing the graphics for the "Get Some Nature into Your Kids" public service announcements, with a new tagline, "Trails Connect People with Nature".

A special ceremony took place at 9 AM on the grounds of the Mason Neck State Park Elizabeth Hartwell Environmental Education Center. American Hiking Society's Executive Director Greg Miller was the master of ceremonies. US Congressman Gerry Connally attended along with a representative from Interior Secretary Salazar's office. Kevin Kilcullen, Branch Chief for the Branch of Visitor Services and Nathan Caldwell, the Service's Trails Coordinator, represented the Washington Office at the event. Juan Rivera, the Director for the Eastern States Operations of the Bureau of Land Management and the Director of the Northern Virginia Regional Park Authority also attended the ceremony and made presentations. The Regional Park Authority hosted a canoe "paddle" trip from the State Park to Occoquan Regional Park. The newly established Occoquan Water Trail was featured during this event. Bob Campbell, the Program Manager for the Chesapeake Bay Gateways Network and Peggy Wall, administrative officer for the Network, set up special displays featuring the John Smith Trail, the Star Spangle Banner Trail and the Potomac Heritage Trail. It is estimated that 80 people attended the ceremony, 50 people requested information on trails around the Neck, 10 people participated in the canoe "paddle" and 34 people participated in specific trail work projects.

Ranger Patricia Wood, an intern, was assigned to work at the Joseph V. Gartlan Jr. Great Marsh Trail. Her role was to assist any individuals with mobility impairments as well as to provide on site interpretation for visitors. A planned activity with wounded war vets from Walter Reed Army Hospital was cancelled at the last minute.

Deputy Manager Daffny Hoskie and Maintenance Worker Steve Boska coordinated the restoration and rehabilitation of a 200 foot section of trail at Eagle Point along the Woodmarsh Trail. Scouts from Boy Scout Troop 141 along with volunteers Dan Brockwell, Donna LeFlore, Cindy Kreticos and intern Jason Murray assisted with the laying out of coconut matting and hauling of limbs and logs to discourage public access into the restored area. This work took place during the morning of the event. After the formal ceremony, Kevin Kilcullen and Nathan Caldwell joined the crew to complete the project.

This was the American Hiking Society's first attempt at taking the lead on a signature event. Kim Hutson-DeBelle and the Society's Executive Director Greg Miller were extremely pleased with the event and the results. Former Assistant Secretary of the Interior, Lynn Scarlett, now a Board member for the Society expressed her gratitude to the refuge staff for hosting this event.

We are extremely grateful to the staff of Mason Neck State Park for their assistance with this event including the provision for a large tent to accommodate the ceremony.

Working in conjunction with Virginia Tech's School of Forestry and Wildlife, Ranger McClevey facilitated visits to the Elizabeth

Eagle Fest-MN

On Saturday April 25, 2009, the annual Eagle Festival was held at Mason Neck State Park. The event honoring the 40th anniversary of the Mason Neck National Wildlife Refuge took place between 9 AM and 5 PM. It is estimated that over 3,500 people were in attendance through the day.

The entire refuge staff participated in the event with Manager Greg Weiler joining other managers of the Neck for a special recognition ceremony. Administrative Support Specialist Stacie Allison, an amateur artist, prepared a painting of the High Point Creek and heron colony to commemorate the anniversary. Poster copies of the print were given out and special matted additions were given to special guests. A commemorative pin was given out to attendees by TR Bear. Intern Patricia Wood lead special tours to the heron colony with the assistance of Maintenance Worker Steve Boska who drove the van. The tours went on every hour. Deputy Manager Daffny Hoskie assisted at the refuge tent and displays to greet the public and answer questions about the refuges of the Complex. Ranger Marty McClevey coordinated the staff's involvement in the event as well as the special tours and displays. Volunteer banders staffed a special songbird banding demonstration and gave out bird buddy wrist bands and IMBD posters. The kids enjoyed comparing their "wing span" to that of real birds at the special "Wing Span Banner". Refuge Officer Gareth Williams directed traffic and assisted with event security.

A daytime high temperature of close to 95 reduced the amount of time spent on site by visitors but did not deter the numbers which exceeded previous year's events.

A special nature journal was created by the Compass 4 H club of Prince William, Virginia. The journal encouraged children to write down their observations at the event and noted special places in the region in which they can enjoy nature with their parents. The sixteen youth and six adults, under the direction of Maria Dunn, gave out the journals, outfitted children with bald eagle masks and rolled IMBD posters. In spite of the heat, four youth braved the TR Bear costume and provided a wonderful interaction with event participants. The helpers handed out the commemorative pins and "Why TR Bear" cards. We could not have provided such a quality outreach with an emphasis on connecting children and nature without the support and hard work of these 4H youth.

On April 25, the annual eagle festival took place at mason neck state park. High temps made the event uncomfortable and reduced the time that families lingered at the event. Heron tours ran from 10 to 4 with ---- participating. Patricia wood lead the tours at the colony, Steve bosksa drove the van. Members of the compass 4H group of Pw county helped at the event by rolling

posters, handing out nature journals and giving kids eagle masks to wear. The kids and adults stayed from 9 to 4:30. The kids also wore the TR bear suit throughout the day and handed out commemorative pins. It is estimated that over 300 people were contacted through the tent outreach.

4 Banders helped at the event but did not catch birds. The kids enjoyed the wingspan banner and bird buddy wrist bands. They hosted 200 visitors.

Stacie Allison and her daughter sara handed out and signed commemorative art prints for the 40th anniversary. Record high temps for the region and state.

Mrs. Mary Florence Clark, a former resident of the Sycamore Point area requested permission to visit the old family homesite. Mrs. Clark is in her late 80's and lived at the High Point Farm in the early 1920's. She was born on the farm and lived there for 6 years. Mrs Clark has valuable information on the farm and work that was done there. At some time in the near future, Ranger McClevey plans to meet with her for the purpose of conducting an oral interview.

2. Outdoor Classrooms-Student

Daffny Jones-Hoskie continued to facilitate research projects with students from Thomas Jefferson High School. Seventy students carried out several projects involving the monitoring of salamanders at vernal pools along High Point , Anchorage, Sycamore Point and Little Marsh Creek Roads.

3. Outdoor Classrooms-Teachers

Teachers and Students at MN

The Virginia Tech School of Forestry and Wildlife continued its educational grant work on the Mason Neck refuge by hosting student career field trips. On previous trips, forestry professors established three sampling sites on the refuge at which the students would complete data collection work. One site was at the head of Little Marsh Creek Road near High Point Road (at the Y- with the road to Phase Two) a second site was established on Sycamore Point Road south of the environmental education pavilion (along the old environmental education trail) and a third was established on the Great Marsh Trail. The purpose of the three sites was to not only provide the students with sites to gather data but to provide viable data off three different forestry sites for use by the refuge. Freedom High 30 students participated in program on April 2. 4 teachers plus marty, Lauryn Sacha. 8-12:30 Little Marsh Creek and Sycamore EE site.

4. Interpretive Foot Trails

On June 6, the American Hiking Society assisted with a Trail Work Project on Woodmarsh Trail. The project closed approximately 250 feet of trail at a culturally sensitive site on the Refuge. Participants removed an old bench and sign post, placed 660 feet of coconut matting on a slope

and along 200 feet of trail. After matting is installed, participants placed matting around a newly constructed observation platform. Participants blocked this section of trail with limbs and logs found adjacent to the work site.



Refuge Staff and Volunteers Placing Matting Along the Trail



Matting and Straw Wattles Along the Closed Portion of the Trail

On August 21, Ranger McClevey installed a new sign at the Woodmarsh Parking lot. The sign is a 2 foot by 4 foot secondary entrance sign with a footboard labeling the Woodmarsh Trail.

An observation platform was constructed at Eagle Point, approximately one mile along the trail from the Woodmarsh parking lot. The platform was constructed by Npowell, a contractor out of Ohio. The platform is fully covered with an accessible ramp. Richard Higginbotham, superintendent for the project met with Ranger McClevey on January 6 to review the project site. N Powell also demolished and reconstructed a 20 foot boardwalk along the trail. The 16 x 20 foot platform with ramp was completed in January. McClevey coordinated the preconstruction archaeology for the site and adjacent trail work. On June 6, refuge staff and volunteers closed a 200 foot section of the Woodmarsh Trail, leading to Eagle Point. Boy Scouts from a Stafford County Troop under the direction of leader Mark Baldo assisted in the rehabilitation project.

5. Interpretive Tour Routes

6. Interpretive Exhibits and Demonstrations

7. Other Interpretive Programs

8. Hunting

Hunting- MN

On Friday October 24 and Saturday October 25 hunt orientation sessions were held at the Woodbridge campus of Northern Virginia Community College. On Sunday November 2 scouting took place at the refuge and State Park. Fifty-two hunters plus eight guests participated in the scouting activities.

Hunts took place on November 20, 21 and December 12. There were 121 hunters on the 20th, 87 on the 21st and 74 on the third day.

9. Fishing – Nothing to Report

10. Trapping – Nothing to Report

11. Wildlife Observation

During the annual Eagle Festival on April 22, the refuge hosted van tours to the Little Marsh Creek heron colony. This portion of the refuge is closed to the public. Thirty people took advantage of this opportunity to view the colony.

Ranger McClevey began surveying the Woodmarsh Trail corridor for rerouting options to improve wildlife viewing opportunities. The refuge staff discussed plans to build a viewing platform at Eagle Point to improve wildlife viewing of the Great Marsh and to correct and eliminate impacts to sensitive cultural sites at that location.

12. Other Wildlife Dependent Recreation

The Audubon Society of Northern Virginia conducted a Christmas Bird Count on the Mason Neck Refuge. This is an annual permitted event for the refuge.

13. Camping – Nothing to Report

14. Picnicking – Nothing to Report

15. Off-Road Vehicling – Nothing to Report

16. Other Non-Wildlife Oriented Recreation

As in previous years Gary Knippling, a local running enthusiast and resident was permitted to use a portion of the Woodmarsh Trail for a leg of the Eagle Run, a 10K foot race. The race is a fund raiser and generally has no more than 25 participants. The race has been allowed to take place on the refuge trail because of it being an annual event and a tradition on the peninsula.

17. Law Enforcement

FY 2009 saw a slight decrease in the overall number of incidents compared to that of FY 2008 on the refuges and the law enforcement program does seem to be having a positive impact on lessening the severity of the incidents occurring. Refuge law enforcement witnessed and recorded the common, misdemeanor types of violations, such as dogs off leash, trespassing and litter which will always be an enforcement issue. Additionally, however, there were some other interesting incidents that arose throughout the year. These included a camping tent discovered in a closed area, local residents cutting down trees on the refuge, a few dumping incidents, graffiti/vandalism, a steady rise in the number of sexual activity incidents in trailhead parking lots and a few traffic violations, one of which turned into an arrest, including interference, operating on a suspended license and drug possession.



Figure 1 - Wood Dumped in Woodmarsh Lot, 03/30/09.



Figure 2 - Graffiti in Great Marsh Trail Restroom, 06/06/09.

The refuge played host to a great event during the summer of 2009. As the first refuge in the System established specifically for the protection of bald eagles, the Elizabeth Hartwell Mason Neck NWR hosted a triple bald eagle release of three rehabilitated bald eagles. Refuge law enforcement provided security and crowd control for the event.



Figure 3 - Triple Eagle Release, 07/25/09.



Figure 4 - Triple Eagle Release, 07/25/09.

The refuge's hunting season saw the addition of some new refuge hunting regulations, including an antler restriction on male whitetail deer in an effort to achieve refuge herd management goals. This created problems. Refuge law enforcement seized eight illegally killed deer that did not fall within the new guidelines. This is even after hunters were briefed at length during the refuge's mandatory, annual hunt orientation. The hunters were fined and the meat was donated to Virginia's Hunters for the Hungry Program that was coordinated by refuge law enforcement.



Illegal bucks killed during 2008 hunt

Poaching issues continue to be a concern at numerous places on Mason Neck, both at the refuge and other state owned properties. Shots fired after dark along Gunston Rd. were heard and reported although no one was caught. Here, refuge law enforcement examines a fresh carcass that was found by one of the first day hunters, that was believed to have been shot illegally along Gunston Rd. at night and then died in the refuge.



LE investigates potentially poached deer

During the facilitation of the Mason Neck white-tailed deer hunt, the state park and refuge are closed to all public entry. On the second day of the hunt an intoxicated visitor entered the State Park and drove as far as the hunter check station. Ranger McClevey recognized the condition of the driver and the presence of beer cans in the car and notified State Park law enforcement rangers.

On October 25, a Fairfax County police officer, participating in a training exercise at Pohick Bay Regional Park fell from a helicopter into Pohick Bay. A massive search of the Potomac River shoreline ensued. Ranger McClevey searched sections of the refuge from the Refuge maintenance shop and beyond the cliffs at High Point.

In January, participants of the Audubon Christmas Bird Count informed Ranger McClevey that they had found a tent in the woods on refuge property across High Point Road from the Woodmarsh Parking lot. McClevey searched the area and found a fully erected tent in the woods. He informed State Park Ranger Tim Smith who made a check of the site for evidence or the presence of fowl play. Nothing was found and the tent was removed.

18. Cooperating Associations – Nothing to Report

I. EQUIPMENT AND FACILITIES

1. New Construction – Nothing to Report

2. Rehabilitation – Nothing to Report

3. Major Maintenance

4. Equipment Utilization and Replacement

In December, the Refuge received a 2009 International dump truck. This equipment replaced a 1992 Ford 900 dump truck.



Old and New Dump Trucks

In January, the Refuge received a Deere 4 x 4 Gator. The Refuge purchased the vehicle for use with the Plant Invasive Program, trail and road maintenance projects. Below, Volunteer Cindy Kreticos loads the Gator while preparing for work along Anchorage Fire Road.



Deere Gator HPX 4 x 4

In May, Refuge maintenance staff and Refuge volunteers demolished the old portable wooden toilets and replaced these toilets with new ones. The old wooden toilets were more than 22 years old and had served their usefulness. Shown below is the demolition of the old toilets.



Demolition of the Old Wooden Porta-let



Newly Purchased ADA Compliant Porta-let

- 5. Communications Systems – Nothing to Report
- 6. Computer Systems – See: E. Administration - 7. Technical Assistance
- 7. Energy Conservation

In January, Maintenance Mechanic Boska and volunteer Cindy Kreticos installed a solar battery charger on the Deere TLB 110.

In August, two solar lighting units were installed in the Woodmarsh Trail Parking Lot. The lights, equipped with motion sensors and timers, were installed to discourage after hour activities in the parking lot. The cost of running powerlines to the parking lot was cost prohibitive.



Solar Lighting Unit

8. Other

Throughout the year, an aggressive recycling and solid waste disposal program continued. The Refuge recycled approximately 45 percent, or 4436 pounds of solid waste. Recycled items included metal, batteries, paper, plastics, tires, and techno-trash.

J. OTHER ITEMS

1. Cooperative Programs – Nothing to Report
2. Other Economic Uses – Nothing to Report
3. Items of Interest
4. Credits – Nothing to Report

K. FEEDBACK – Nothing to Report

OCCOQUAN BAY NATIONAL WILDLIFE REFUGE
Woodbridge, Virginia

INTRODUCTION

Located about 20 miles south of Washington, D.C., Occoquan Bay National Wildlife Refuge is a 644 acre parcel on a peninsula bordered by the sandy river shoreline of Belmont Bay, Occoquan Bay and the tidal flats of Marumsco Creek. It lies approximately 4 miles east of the fall line separating the Coastal Plain from the Piedmont Uplands Province, resulting in alluvial terrace deposits underlain by sand, silt, clay, and gravel in a massive eastward-thickening wedge of sediments. "Occoquan" is derived from a Dogue Indian word meaning "at the end of the water". Adjacent to the confluence of the Occoquan and Potomac Rivers, tributaries to the Chesapeake Bay, the location made this area a stopover site for migrant birds as well as a natural site for Native American and colonial settlement.

Occoquan Bay NWR is made up of two parcels formerly known as the Woodbridge Research Facility and the Marumsco National Wildlife Refuge. The research facility, which served as an Army communications in the 1950's and 1960's and a top secret research center in the 1970's and 1980's, closed its operations in September of 1994 under the Base Realignment and Closure Act (BRAC). Local citizen initiatives and political support led to the signing of legislation by President Clinton in September 1994, authorizing transfer of the entire facility to the U.S. Fish and Wildlife Service. The site was formally transferred in June, 1998. Marumsco NWR had been established in 1973 when the Army exsessed the creek p0ortion of the property. Recombining the two parcels with the new name Occoquan Bay gave the site more community recognition and management capability.

As a classified Army site, the Woodbridge Research Facility was closed to the public. Mowed and cleared for electronics testing, the site contains a diversity of grassland and wetland plant species unusual in the heavily developed Potomac region. Its diverse habitats support a correspondingly high number of wildlife species, particularly migrant land and waterbirds and grassland nesting species. Wetland habitats cover about 50 percent of the sire, and include wet meadows, bottomland hardwoods, open freshwater marsh, and tidally influenced marshes and streams. About 20 percent of the unit is upland meadows, with the remaining vegetated areas consisting of shrub and mature or second growth forest. The refuge is managed to provide early successional habitats and appropriate wildlife dependent recreational opportunities, to educate visitors on the results and benefits of habitat management for wildlife, and for the enjoyment and benefit of people.

The Refuge is located in Prince William County, one of the fastest growing counties in the Commonwealth of Virginia, with more than 241,000 residents. The county consists of 222,305 acres of land and 51,200 acres of water. It is comprised of single family and multi-family residential homes, agriculture, parks and open space, and government, commercial, and industrial facilities. Employment is high, predominately in government and government-associated services or activities.

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A. HIGHLIGHTS

B. CLIMATIC CONDITIONS

See Elizabeth Hartwell Mason Neck NWR.

C. LAND ACQUISITION

1. Fee Title – Nothing to Report
2. Easements – Nothing to Report
3. Other – Nothing to Report

D. PLANNING

1. Master Plan – Nothing to Report
2. Management Plan – Nothing to Report
3. Public Participation – Nothing to Report
4. Compliance with Environmental Mandates – Nothing to Report
5. Research and Investigations – Nothing to Report
6. Other - Nothing to Report

E. ADMINISTRATION

1. Personnel

See Elizabeth Hartwell Mason Neck NWR – Staff shared as part of Potomac River NWR Complex.

2. Youth Programs
3. Other Manpower Programs
4. Volunteer Program

Volunteers remain a critical element in the day to day and project oriented management on the Complex. Occoquan Bay NWR has the largest contingent of steady and reliable volunteer help. Volunteers participated in greeting visitors, mowing, biological programs and cleanups.

Recognition of Volunteers

On Saturday September 26, Volunteer Coordinator Marty McClevey hosted the volunteer recognition dinner and awards social. The dinner took place at the Painted Turtle Pond pavilion at the Occoquan Bay Refuge. Starting at 6:30 with Dixie Bones barbeque, Marty presented hour awards to those in attendance and announced the selection of Bill Supulski and Dot Lamolinara as the volunteers of the year. After the presentations, everyone sat around a fire pit and shared stories. This was a special time for all.

Bill Supulski and Dot Lamolinara were recognized as joint volunteers of the year for Fiscal Year 2009 for their work as a couple in the creation of an educational handout for the Occoquan Bay migratory songbird banding station, an innovative mockup of the soon to be refurbished Elizabeth Hartwell Mason Neck Refuge brochure and the new Occoquan Bay NWR Visitor Information tear sheet. Bill and Dot each were recognized for completing over 500 cumulative hours of volunteer service as banders at the Mason Neck MAPS station and the Occoquan Bay NWR migratory songbird banding station. Larry Brindza a long time volunteer for the Complex, was recognized as volunteer of the year for FY 2008 for his outstanding work in the research of the monarch butterfly. Two of Larry's tagged monarchs were found in El Rosaria, Mexico. He also published a nationally recognized paper on his monarch research.

Compass 4H

On Sunday July 19, Marty presented certificates and a plaque to the Compass 4 H group at Prince William Forest Park for their work in helping with Merrimac, Eagle Fest and fishing event. Compass 4H is a youth program from Lake Ridge, Virginia. Youth from this program provided a variety of assistance in the public use program including the creation of nature journals for the annual Eagle Festival and the Merrimac Farm Bluebell Festival. The adults and youth wore the TR Bear and Blue Goose costumes at the Eagle Festival. Maria Dunn, the group's coordinator indicated that the Compass kids would help at any future event.

Convention and Visitors Bureau

Volunteers for Occoquan Bay were invited to attend a volunteer luncheon hosted by the Prince William Convention and Visitor's Bureau on May 14 in Manassas. The luncheon featured a guest speaker on the new Valley Civil War History Trail.

Volunteer Highlights

Patricia Wood

On July 14, Volunteer Patricia Wood, intern and volunteer for the Complex, was selected as the volunteer of the year for the Virginia Department of Game and Inland Fisheries. She was presented an award by the Board of Directors of the agency at a special meeting in Richmond. Earlier in the year, she was selected as the volunteer of the year for the Northern Virginia Region Patricia, who has volunteered at the Complex since 1999, coordinated the youth fishing event on May 20, participated in the Merrimac Farm Bluebell Festival and the Eagle Festival. She is an undergraduate student at Mason Neck and became a Fish and Wildlife Service intern for our Complex in 2009 and is a full time employee of Long and Foster Realty.

New Volunteers

Marty McClevey trained and oriented Ted Fike in entry booth operations. Ted, a retired resident of Woodbridge, provided assistance as a greeter for a couple months. He later dropped out of the volunteer program.

Long Time Volunteers

Cindy Kreticos and Curt Anderson continued to provide assistance in tractor operations. Members of the DIA Rod and Gun Club provided assistance in the preparation for white-tailed deer management hunts and the annual youth fishing event.

On April 8, two volunteers, Cindy Kreticos and Paul Dodd assisted refuge staff in the clearing of the culvert pipes at the mouth of Catamount Creek. They worked in shallow waters removing accumulations of debris from the tidal inlet/outlet pipes. Shortly thereafter, Paul Dodd moved from the region.

Latter Day Saints

As already noted under the Youth Programs section, the Latter Day Saints youth provided assistance in preparation for the annual Fall Festival and returned in spring to clean the contact station, wash vehicles, blow off the wildlife drive, wash interpretive panels and clean the pavilions.

ExxonMobil Corporation held its annual refuge shoreline cleanup on April 4. At this cleanup, ExxonMobil employees and their families are invited out to help pick up litter and construction debris along the refuge shoreline. This event, which has been conducted since the site was an Army facility, has been extremely fruitful for ExxonMobil Corporation and the Complex. In addition to providing the volunteers, Exxon also donates a set amount of money based upon the number of employees that participate. In past years the Friends of the Potomac River Refuges has received up to \$5,000.00 in donations from ExxonMobil through this event.

The ExxonMobil employees and their families cleaned approximately two miles of shoreline, including the entire refuge boundary from Dawson Beach Road, along the Ospreys golf course to Taylor Point. Spectacular weather and extremely enthusiastic volunteers resulted in the accumulation of enough trash to fill two roll-off construction dumpsters. With 198 volunteers, this was the largest volunteer project hosted by the refuge. In addition, eight refuge volunteers and all six refuge staff members provided assistance as guides, truck drivers and helpers. A check for \$9,000 was presented to the Friends organization. Because of the large turnout of volunteers, the refuge will seek assistance from ExxonMobil in future years to coordinate cleanup projects at Mason Neck.

Two roll-off dumpster were filled and collected plastics were taken to the local county recycling facility.

Marmsco Creek Cleanup

Brian Abugel and two other employees of ExxonMobil volunteered to return to remove trash from Marumsco creek on Saturday, April 18. The crew worked from 8AM to Noon collecting material from the north shore and other accessible points.

Banding Station

Volunteers operated the Occoquan Bay migratory songbird station from the end of March through the end of May. They had 27 full banding days and 5 partial days. Four days were rained out of the 36 scheduled. They had 2,772 net-hours. The banders hosted 190 visitors at the station as well as 200 at the Mason Neck Eagle Festival in April (110 adults, 70 children). They also made 43 presentations on the banding operation at the festival.

5. Funding

See Elizabeth Hartwell Mason Neck NWR – combined funding for Potomac River NWR Complex.

6. Safety

On October 15, the Regional Manager of Safety and Health conducted a Safety and Occupational Health Assessment. The general synopsis of the assessment was “Although there are some minor deficiencies, in general this was an excellent inspection and the office and work environment are in great shape.”

7. Technical Assistance

See Elizabeth Hartwell Mason Neck NWR

8. Other Items

F. HABITAT MANAGEMENT

1. General

2. Wetlands – Nothing to Report

3. Forests – Nothing to Report

4. Croplands – Nothing to Report

5. Grasslands

Refuge staff used a combination of herbicide treatment and mowing to control the invasive Bradford pear. Maintenance Mechanic Boska operates the Deere 7200 tractor along with the Alamo Tree Cutter.

6. Other Habitats – Nothing to Report

7. Grazing – Nothing to Report

8. Haying – Nothing to Report

9. Fire Management – Nothing to Report

10. Pest Control
11. Water Rights – Nothing to Report
12. Wilderness and Special Areas – Nothing to Report
13. WPA Easement Monitoring – Nothing to Report

G. WILDLIFE

1. Wildlife Diversity

Over 215 species of birds, 60 species of butterflies, and numerous mammals, amphibians, reptiles, and other species inhabit the site making it one of the most varied in northern Virginia. Factors that contribute to diversity are the over 600 species of plants that have been documented, the site's location at the junction of two rivers, and the many uses the land has been put to in the past.

2. Endangered and/or Threatened Species

Bald eagles have been seen frequently using the shoreline for perching and resting. A pair of eagles was seen roosting and perching along the eastern shore during months of January through March in 2004, and this past year a pair established a territory and built a nest along the shore. On February 24, two prominent birders observed a pair of bald eagles bringing sticks to a large tulip poplar along a tidal inlet off Deephole Point Road. Further observation confirmed that the two were building a nest. The section of the Deephole Point Road and trail from the end of Fox Road to the end of Easy at Deephole Point was closed to foot traffic until it could be determined if the eagles would actually nest. The trail was reopened in May when the nest site was officially declared abandoned. Plans have been made to close the trail in December in anticipation of a further interest by the birds to nest. Gate posts will be set at each end of the trail to facilitate closing.

3. Waterfowl

The man-made pond in the compound receives constant use, primarily by pairs of Canada geese, hooded mergansers, and wood ducks. In the winter, black ducks, mallards, and wood ducks seemed to prefer the beaver impounded creek paralleling Easy Road. Ruddy ducks and lesser-and-greater scaup often raft off the southern shoreline near the mouth of Marumsco Creek. For example, during the Christmas Bird Count between 20,000 and 25,000 scaup were using the Occoquan Bay and adjacent shoreline.



Male and Female Mallards

4. Marsh and Water Birds

Historically, marsh bird surveys were conducted at Elizabeth Hartwell Mason Neck and Occoquan Bay National Wildlife Refuges in June and July of 1999 using two passive listening intervals (initially a 0-5 minute period and 1-minute final period) and in-between a broadcast response (playback) portion. Only two species of colonial waterbirds (Great Blue Heron and Great Egret) have been identified on the refuge. However, in recent years additional waterbirds have been sighted on the refuge by visitors.



Yellow-crowned night heron in marsh

5. Shorebirds, Gulls, Terns, and Allied Species

Woodcock have become very visible during the spring with peenting activity noted in all quadrants and liable to occur well into early summer. With the mild winter, some woodcock were even heard “peenting” during the Christmas bird count in January.

6. Raptors

The open expanses draw many raptors. Red-shouldered hawks utilize many of the smaller meadows fringed by trees while red-tailed hawks soar over the larger areas in competition with bald eagles and osprey.



Osprey landing on nest near parking area.

Kestrels can be seen near the main compound on light posts and the fence while harriers sweep the western half of the refuge. During the winter the Northern Harrier are common sites in the grassland areas of the refuge.

On January 11, 2007 Gareth Williams and Ranger McClevey recovered a red tailed hawk which had been hit by a vehicle on Furnace Road in Fairfax. The bird was transported to the Fairfax Animal Shelter for treatment.

7. Other Migratory Birds

An interesting observation occurred on March 28, 2007 when birders observed a sandhill crane walking on a golf green adjacent to Dawson Beach Road. The bird flew into the refuge and landed in a field along the entry road. The bird was only seen on that day. This was the first documented sighting of a sandhill crane in the Northern Virginia region.

8. Game Mammals

Spotlight counts to census the deer population were initiated in September 1998 and demonstrate an increasing population, followed by a decreasing trend in 2001 due to hemorrhagic disease and implementation of a hunt program on the refuge. (See Figure 3 and H – 9. Hunting)

9. Marine Mammals – Nothing to Report

10. Other Resident Wildlife

The number of coyote sightings on the refuge has increased. Coyote scat is regularly found along all roads.

11. Fisheries Resources – Nothing to Report

12. Wildlife Propagation and Stocking – Nothing to Report

- 13. Surplus Animal Disposal – Nothing to Report
- 14. Scientific Collections – Nothing to Report
- 15. Animal Control – Nothing to Report
- 16. Marking and Banding

In 2001 a spring (April-May) banding station was established on the refuge with cooperation and assistance of several volunteers near the mouth of the Marumsco Creek. At the banding site valuable data on resident and migratory bird species using the refuge is collected with the purpose of establishing a long-term monitoring site. Staffing for the station is totally composed of volunteers under the supervision of the refuge biologist and lead volunteer/coordinator (Suzanne Miller, a resident of Fairfax County and volunteer bird bander with the Institute for Bird Population and their MAPS project at Mason Neck). Initially, funding for the station came primarily through the biological program of Potomac River NWR, but more recently the Friends group for the refuge has taken the activities of the banding under their wing and built a storage building for the project. See attached Table for summary of all the birds banded on the refuge.



Volunteer banding a bird

Name	CODE	2003	2004	2005	2006	2007	2008
		Band	Band	Band	Band	Band	Band
Spotted Sandpiper	SPSA					1	2
Mourning Dove	MODO					1	2
<i>US F&WS, FoPRR Fall Festival</i>	<i>MODO</i>					5	3
Yellow-billed Cuckoo	YBCU					1	
Red-bellied Woodpecker	RBWO	1	3	1	4		4
Downy Woodpecker	DOWO	2	4	4	5	1	3
Hairy Woodpecker	HAWO	1	2		1	1	3
Northern Flicker	YSFL		2		1		1
Pileated Woodpecker	PIWO		1	1	1		
Eastern Wood-Pewee	EAWP		1	5			2

Acadian Flycatcher	ACFL	1		3	4	1	3
Alder/Willow Flycatcher	TRFL			6	5		18
Eastern Phoebe	EAPH	1	1	4		2	9
Great-crested Flycatcher	GCFL		1	1			1
Eastern Kingbird	EAKI		1	1	2	1	1
White-eyed Vireo	WEVI		2		1	5	5
Warbling Vireo	WAVI			3	1		
Philadelphia Vireo	PHVI		1				
Red-eyed Vireo	REVI	2	2		3	3	2
Blue Jay	BLJA		7	4	1	1	2
Tree Swallow	TRES	2		2		1	
N. Rough-winged Swallow	NRWS	2		1		2	
Carolina Chickadee	CACH	4	1	4	3	4	2
<i>US F&WS, FoPRR Fall Festival</i>	<i>CACH</i>		<i>1</i>				
Tufted Titmouse	ETTI	3	5	2	4	5	3
<i>US F&WS, FoPRR Fall Festival</i>	<i>ETTI</i>				4		
White-breasted Nuthatch	WBNU		1		1	3	1
Brown Creeper	BRCR		1		3		8
Carolina Wren	CARW	6	11	7	9	4	11
<i>US F&WS, FoPRR Fall Festival</i>	<i>CARW</i>			4			
House Wren	HOWR		2		1		3
Winter Wren	WIWR			1	2	4	2
Marsh Wren	MAWR						
Golden-crowned Kinglet	GCKI		1			3	8
<i>US F&WS, FoPRR Fall Festival</i>	<i>GCKI</i>		<i>1</i>				
Ruby-crowned Kinglet	RCKI	4	3	9	5	7	1
<i>US F&WS, FoPRR Fall Festival</i>	<i>RCKI</i>		3		4		
Blue-gray Gnatcatcher	BGGN	6	4	4	5	5	9
Eastern Bluebird	EABL		2	3	5		4
Veery	VEER	3	1	1	7	2	5
Gray-cheeked Thrush	GCTH	1	3		6	2	3
Swainson's Thrush	SWTH	3	2	10	9	7	11
Hermit Thrush	HETH	1	2			5	3
Wood Thrush	WOTH	1				3	3
Gray Catbird	GRCA	15	39	27	38	78	55
<i>US F&WS FoPRR Fall Festival</i>	<i>GRCA</i>				<i>1</i>		
Northern Mockingbird	NOMO	3	1	1			1

<i>US F&WS FoPRR Fall Festival</i>	<i>NOMO</i>		<i>1</i>				
Brown Thrasher	BRTH	4	8	7	6	5	6
<i>US F&WS FoPRR Fall Festival</i>	<i>BRTH</i>				<i>1</i>		
Cedar Waxwing	CEDW			1	3		2
European Starling	EUST	3	1		1	1	
Blue-winged Warbler	BWWA						1
Northern Parula	NOPA	2	1		1	1	1
Yellow Warbler	YWAR	4	4	6	8	11	10
Chestnut-sided Warbler	CSWA	1					1
Magnolia Warbler	MAWA	3		5			2
Black-throated Blue W.	BTBW	2	1	1	4	4	2
Yellow-rumped (Myrtle)	MYWA	57	48	35	95	121	80
<i>US F&WS FoPRR Fall Festival</i>	<i>MYWA</i>		3				
Black-throated Green W.	BTNW				1		
Prairie Warbler	PRAW						2
Palm Warbler (Yellow)	YPWA	4	5	12	32	10	10
<i>Palm Warbler (Yellow)</i>	<i>YPWA</i>					<i>1</i>	
Palm Warbler (Western)	WPWA	1					
Blackpoll Warbler	BLPW	6	2	41	13	8	8
Black and White Warbler	BAWW	1		1	1	2	
American Redstart	AMRE	1		5	2	2	10
Prothonotary Warbler	PROW	5	3	3	4	3	7
Worm-eating Warbler	WEWA						1
Ovenbird	OVEN		1	2		3	1
Northern Waterthrush	NOWA	17	14	31	58	20	24
Mourning Warbler	MOWA			1		2	5
Common Yellowthroat	COYE	64	43	48	108	77	102
<i>Common Yellowthroat</i>	<i>COYE</i>					<i>1</i>	
Hooded Warbler	HOWA					2	
Wilson's Warbler	WIWA			1	2	1	2
Canada Warbler	CAWA	1		4	1	2	1
Yellow-breasted Chat	YBCH	2		2	5	3	4
Scarlet Tanager	SCTA						
Eastern Towhee	EATO	1	14	10	10	18	13
Chipping Sparrow	CHSP	3			1		
Field Sparrow	FISP	7	7	7	7	4	14
Savannah Sparrow	SAVS						1

Fox Sparrow	FOSP					1	
Song Sparrow	SOSP	5	14	26	18	27	58
<i>US F&WS FoPRR Fall Festival</i>	<i>SOSP</i>		2	1	1		
Lincoln Sparrow	LISP		2	1	1		6
Swamp Sparrow	SWSP	8	7	12	16	30	22
White-throated Sparrow	WTSP	29	66	59	76	99	117
<i>US F&WS FoPRR Fall Festival</i>	<i>WTSP</i>				2		
White-crowned Sparrow	WCSP						
Dark-eyed Junco	SCJU				1		1
American Robin	AMRO	1	1	1	3	4	3
Northern Cardinal	NOCA	15	16	23	37	23	22
<i>US F&WS FoPRR Fall Festival</i>	<i>NOCA</i>		1			2	
Blue Grosbeak	BLGR	1	1		1	1	
Indigo Bunting	INBU	4	6	5	5	6	5
Red-winged Blackbird	RWBL	8	27	31	42	32	18
Rusty Blackbird	RUBL	1			1		
Common Grackle	COGR	9	36	29	35	10	9
Brown-headed Cowbird	BHCO	4	4	1	5	6	16
Orchard Oriole	OROR	11	7	4	5	4	5
Baltimore Oriole	BAOR	5	1	3	5		1
House Finch	HOFI	3					
American Goldfinch	AMGO	3	8	14	10	19	20

	2003	2004	2005	2006	2007	2008	
Number of Species per year	55	57	57	63	61	72	
Number of birds per year	358	467	542	764	724	807	
Species to-date:	72	78	81	83	87	89	
Banded to-date:	1228	1695	2237	3001	3725	4532	
Name	Code	2003	2004	2005	2006	2007	2008
Netted but not banded:							
Ruby-throated Hummingbird	RTHU	2	5	3	10	7	9
Northern Bobwhite				1			
Spotted Sandpiper				1	1		
Green Heron							1
Fish		1					
Frog				1			
CrayFish					1		

17. Disease Prevention and Control

See Elizabeth Hartwell Mason Neck NWR – G.17 Disease Prevention and Control

H. PUBLIC USE

1. General

Visitor Services Overview and Highlights

Ranger Marty McClevey oversaw the refuge sign program. Work in the program included an inventory of current signs as well as the design and fabrication of new signs. Marty worked with UNICOR–Prison Industries to design and fabricate new signs for the refuges including several for Occoquan Bay. Four of the signs were guide signs for the Occoquan Refuge including a wildlife drive entry sign, a parking lot guide sign for the central parking area, a wildlife drive and refuge exit sign. A new facility identification sign was installed at Painted Turtle Pond. The sign is a 2 foot by 4 foot standardized facility sign which reads – Painted Turtle Pond Environmental Study Area. Volunteers assisted in the fabrication of the sign frames and installation of this sign.

A Nature of Learning Grant was obtained by the Friends of the Potomac River Refuges from the National Fish and Wildlife Foundation to conduct a series of monthly environmental education programs for the public. The \$20,000 grant provided funding for backpacks with field guides and binoculars. The programs began in March of 2009 and through October. Additional programs will be conducted in the first three months of 2010 to fulfill the obligations of the grant. Seven programs for Saturday mornings were scheduled.

Goals for this year included the installation of an orientation map at the central parking lot and the creation of a visitor tear sheet. Both of these goals were met which greatly enhanced the visitor services program on the site.

Marty McClevey provided a special tour for members of the Compass 4 H Group. The program was so successful that the organizer, Maria Dunn later worked with this group to create nature guides for refuge events.

The Friends of the Potomac River Refuges conducted its annual membership meeting on January 23, 2009 in Lake Ridge. Deputy Manager Daffny Hoskie presented a powerpoint program in which she reviewed the current management plans and accomplishments of the Complex. The organization continues to see a decline in membership but the accomplishments are significant.

On International Migratory Bird Day, May 9, Ranger McClevey conducted a special tour of the Occoquan Bay NWR and Elizabeth Hartwell Mason Neck NWR for members of the National Press Club of Washington D.C.. It is hopeful that this tour will become an annual event.

Events- OB

The annual Fall festival was held on October 11, 2008. Ranger McClevey set up static displays in the pavilion and concentrated on coordinating the wagon rides through the refuge. Steve Boska operated the large John Deere 7200 tractor to pull the large hay wagon, donated for our

use by the Mason Neck State Park. Gareth Williams coordinated traffic control with the assistance of two Prince William Police Officers. The volunteers staffing the entry gate did not maintain visitation records for the event. A tally of total cars and people is unavailable but it is estimated that over 700 people attended.

On Saturday May 2, 2009, Ranger Marty McClevey and intern Patricia Wood, participated in the annual Occoquan River Festival at the Belmont riverfront marina in Woodbridge, Virginia. Marty coordinated the outreach for this event, which emphasized the location and amenities of the Occoquan Bay National Wildlife Refuge. Van tours were conducted on the hour from 11 AM to 3PM. The refuge was provided space inside the event tent with George Mason University. Professor Christian Jones of GMU offered the space to publicly display the cooperative partnership between the university and the refuge. Approximately 30 people participated in the van tours. Event coordinator Jim Epstein expressed his appreciation for our attendance at the event and invited the refuge to participate in future years.

On Tuesday May 20, 2009, Deputy Manager Daffny Hoskie and Ranger Marty McClevey met with USDA Forest Service film office on the Occoquan Refuge. The taping of segments for a new film on how invasive plants impact birding opportunities in this region. Representatives of National Audubon as well as Northern Virginia Audubon were filmed. A large segment focused on the songbird banding station.

2. Outdoor Classrooms - Students

Shad Release

On Friday May 1, 2009, Jeanette O'Connor and Michelle Lewis, educational specialists with Living Classrooms D.C., coordinated the second annual shad release at the Occoquan Bay National Wildlife Refuge. Eleven schools from Northern Virginia with two hundred and one students and sixty-four adults participated in the release. One school brought over 30,000 shad fry. The fry were released into Belmont Bay of the Occoquan River from Dawson Beach, near Taylor Point. The kids were excited to see their fry leave for the waters of the Atlantic, hopeful that they will return in 3 years.

The release point was off of Charlie Road on Dawson Beach near Taylor Point. Two hundred and one students and sixty-four adults participated.

South County Secondary: 35 students, 4 adults
Fort Hunt ES: 15 students, 3 adults
Thoreau MS: 56 students, 4 adults
Key MS: 19 students, 2 adults
Drew Model Montessori School: 15 students, 4 adults
Union Mill ES: 24 students, 11 adults
HayField Secondary: 5 students, 3 adults
Flint Hill School: 19 students, 17 adults
Daniel's Run ES: 13 students, 11 adults
Carl Sandburg MS: 0 students, 4 adults
Lake Braddock MS: 0 students, 1 adult

Middle School Program

Joy Greene coordinated the Wonders of Watersheds environmental education program at the E.A.G.L.E.S. center with on site programs held at Painted Turtle Pond. A total of 2848 middle school students and teachers participated in these programs held in the Fall and Spring.

On October 14, 2008, Manager Weiler and Deputy Manager Hoskie attended a special ceremony at Painted Turtle pond to recognize a contribution by Dominion Virginia Power in support of the Prince William County environmental education program. Joy Greene hosted the ceremony at which Dominion executives toured the facility and watched middle school children conducting water sampling and aquatic plant and insect identification.

On Saturday May 16, the 8th annual fishing event took place at Painted Turtle Pond on the Occoquan Refuge. The weather was perfect and 102 kids and 11 adult volunteers participated. Students from Marumsco Hills Elementary School participated in the event. Katie ----, a teacher at the school, brought students from one of her classes last year for the event. The students enjoyed the opportunity so much that they asked to return for this year's fishing day.

3. Outdoor Classrooms-Teachers

The E.A.G.L.E.S. center offered opportunities for teachers to obtain environmental education skills on the site. Joy Greene coordinated a monarch butterfly study program with the aid of volunteer Larry Brindza, a monarch researcher. Twelve teachers participated in the program which was filmed by the Prince William County Schools Media Resources Office for a segment in the Monarch Live national schools broadcast. Larry tags butterflies through the
On August 19, 2009, Dann Sklarew from George Mason University held a joint training session with Joy Greene to indoctrinate Graduate students in the basics of conducting field experiences for middle school students.

4. Interpretive Foot Trails

A new trail head map was installed at the central parking lot. This panel, designed by Ranger Marty McClevey and created by Wilderness Graphics, provides a map oriented to the land, with north at the bottom of the map, with rules and regulations and points of interest. The map was installed in the kiosk at the central parking lot by Antoine Hoskie, Daffny Hoskie and Jason Murray.

Ranger Marty McClevey designed and coordinated the printing of a Visitor Welcome Tear sheet for the refuge. This sheet provides helpful information as well as an updated trails map on the reverse.

5. Interpretive Tour Routes

Wildlife drive

On April 26, a bicycle group from Belmont conducted a bike tour through the refuge along the wildlife drive. Ten individuals participated in the tour. Temperatures in the 90's discouraged

more attendance. This is proposed to become an annual event with the addition of a Christmas bike ride.

Marty installed three new guide signs at the Occoquan Bay Refuge. A 2 foot by 4 foot Parking and Wildlife Drive sign was installed on the entry road at the central parking lot and the Wildlife Drive entrance sign was installed adjacent to the central parking lot at entry way to the drive. The sign is approximately 3 feet by 24 inches with recreational symbols for automobiles, bikes and a prohibitive foot traffic symbol. A refuge exit sign for the wildlife drive was installed at the Taylor road gate. This sign is approximately 2 foot by 4 foot stating that the refuge exit is through the gate. It also indicates with symbols that foot traffic is prohibited on the Taylor Road, Ospreys golf course section of the drive.

All of these signs were designed by Ranger Marty McClevey, approved by the regional sign coordinator and fabricated by UNICOR, Prison Industries. All of the signs were exceptional in quality and below normal fabrication costs. Marty McClevey utilized volunteer assistance in the installation.

6. Interpretive Exhibits and Demonstrations

Marty McClevey worked with Manager Greg Weiler, EAGLES Center Coordinator Joy Greene and intern Patricia Wood in determining the specific areas of interpretation for the proposed Visitor Contact Station. Several meetings were held to brainstorm and glean critical experience from the participants.

7. Other Interpretive Programs

The Friends of the Potomac River Refuges conducted the Nature of Learning Grant Outdoor Adventures Programs on the refuge from March through December. Joy Greene, a board member of the organization and local educator, coordinated the purchase of equipment, the dates of programs and facilitated each program. Each program was for the public by reservation. Teachers were invited to attend for educational advancement training credit. Repeat participation in all of the events was encouraged. The programs were run on Saturday mornings from around 10 to 11:30 AM.

In March, they kicked off the programs with a birding basics program. Marty McClevey worked with Joy Greene to provide instruction to beginning birders, while other birders joined Jim Waggener or Northern Virginia Audubon for advanced instruction. Twenty-seven people attended this first session, including four local teachers.

On April 4, twenty-six people with some repeats participated, Larry Underwood, Annette Baker-Toole, Joan Patterson and Larry Greene provided the support and instruction.

On May 2, the program consisted of a tour of the migratory songbird banding station. Thirty people participated including 15 teachers and 15 members of the general public.

In June, a plant identification walk took place. Ten teachers and 6 individuals from the public attended.

In July, a wildlife Safari tour was conducted utilizing the refuge van. Seven teachers and one member of the public were provided a tour of the refuge by van. Emphasis was on the history of the refuge.

On Saturday August 1, 2009, Ranger McClevey led the monthly Outdoor Adventures program on Alien Invaders. Sixteen individuals attended the program. Ten school teachers participated for credit. Through the program, the participants learned that the current landscape of this region has been modified by man. Specific concepts were covered as well as terms related to alien invasive plants. Each participant learned to use the Newcomb's and Peterson Field guides for identifying plants. McClevey led the participants on a short walk to show specific alien plants and to review control efforts.

The program lasted an hour and a half.

Virginia Wildlife

On Tuesday August 11, 2009, Marty McClevey conducted a tour of the refuge for Glenda Booth, a free-lance writer. Glenda is writing an article about the site for Virginia Wildlife Magazine

8. Hunting

DIA put up stands on Sunday, October 26, under the direction of Officer Gareth Williams.

On Saturday, December 13, the annual Virginia Department of Game and Inland Fisheries generations hunt was held on the refuge, 20 youth participated in this special hunt. The Contact Station was utilized for a 3 hour instructional session before moving the youth and their mentor onto the hunt stands for the remainder of the day.

On the following Monday and Tuesday (December 15 and 16), lottery hunts were facilitated on the refuge. The hunts began each morning at 6:30 and ended around 5 PM. A low number of deer were taken for all three of these hunts. On January 10, 2009, an antlerless hunt was held on the refuge. No deer were taken during this hunt.

9. Fishing – Nothing to Report

10. Trapping – Nothing to Report

11. Wildlife Observation

The Audubon Society of Northern Virginia, the Northern Virginia Bird Club and the Fredericksburg Bird Club obtained permits to conduct monthly bird walks on the refuge. Permits were also issued to Jim Waggener, to continue his monthly bird counts and the annual Christmas Bird Count.

12. Other Wildlife Dependent Recreation – Nothing to Report

13. Camping – Nothing to Report

14. Picnicking – Nothing to Report

15. Off-Road Vehicling – Nothing to Report

16. Other Non-Wildlife Dependent Recreation

There was continued vigilance on the refuge to determine if visitors were participating in geocaching. Evidence of past geocaching activities has been found including trespass into closed areas on the Occoquan and Mason Neck Refuges.

17. Law Enforcement

Refuge Law Enforcement was called to the refuge on the evening of January 12th, for a motor vehicle accident at the main entrance to the refuge. While speeding and becoming involved in a domestic dispute in the vehicle on Dawson Beach Rd., an impaired driver skidded straight off the road at the main entrance, destroying the main 8' x 4' refuge sign and damaging the gate that surrounds the refuge. Prince William County PD assisted refuge law enforcement with the case, which was eventually turned over to the County for state prosecution for reckless driving, speeding and damage to Government property. The driver's insurance company paid to replace the refuge sign and sections of the gate for the refuge.



Figure 5 - Reckless Driving, Sign/Gate Damage @ Occoquan Bay NWR, 01/12/09.



Figure 6 - Reckless Driving, Sign/Gate Damage @ Occoquan Bay NWR, 01/12/09.

There were numerous other typical violations that are common for the Occoquan Bay NWR, such as trespassing off the trails, visitors late after closing hours, dogs in the refuge, failure to pay the required entrance fee and fishing illegally.



Figure 7 - Dumping of Yard Waste on the Refuge's Wildlife Drive, 04/29/09.

The Potomac River NWR Complex staff hosted their Annual Youth Fishing Event at the Occoquan Bay NWR again this year. This event is focused on introducing kids to fishing and overall youth recruitment for the sport in the Northern Virginia area. The event was a huge success again this year, with over 100 kids coming out to participate. Special thanks go to all the volunteers that help make this day a success from year to year.



A Youngster with his First Fish, Assisted by Refuge Law Enforcement, 05/16/09.



DIA Rod & Gun Club Volunteer Assists Another Successful Youth, 05/16/09.

On January 31, 2009 a Dodge Durango ran off of Dawson Beach Road at the entrance to the refuge and ran through refuge entrance sign and a section of chain link fence. Ranger Marty McClevey was closing the refuge at the time and observed the incident. He notified Officer Garey Williams of the incident and contact Prince William Police. Marty contacted UNICOR for sign cost information and Long Fence for fence repair estimates. The entry sign was installed a a volunteer day held in October.

18. Cooperating Associations – Nothing to Report

I. EQUIPMENT AND FACILITIES

1. New Construction

2. Rehabilitation – Nothing to Report

3. Major Maintenance

Maintenance placed additional emphasis on vehicle maintenance. In November the Ford 2001, F-150 pick-up received maintenance. Coolant and transmission fluids were flushed and replaced, front and rear brakes were replaced, wheel alignment, and the lower ball joints and idler arms were also replaced. The Ford 1999, Econoline van's maintenance included new tires, coolant and the transmission fluids flushed and replaced.

In April the Refuge hosted the annual Exxon/Mobil cleanup. Refuge staff was on hand and cleaned some of larger pieces of debris that washed up along the Refuge's shoreline.



Refuge Manager Greg Weiler directs Maintenance Mechanic Steve Boska

High tides and storms continued to bring driftwood and debris into and around the culverts at Deep Hole Point. Refuge staff clear debris from the culvert area after a late winter storm.



Maintenance Mechanic Boska operates the mini-excavator clearing debris



Park Ranger Marty McClevey clears debris from a culvert

4. Equipment Utilization and Replacement

In May, Refuge maintenance staff and Refuge volunteers replaced the old portable toilets with new ones. Shown below are the old and new portable toilets.



5. Communication Systems

See Elizabeth Hartwell Mason Neck NWR: I.5 – Communication Systems

6. Computer Systems

See Elizabeth Hartwell Mason Neck NWR: E.7 – Technical Assistance

7. Energy Conservation

8. Other

On April 23, Refuge staff noticed an oil leak on the Cat12E grader. A leaking plug and gasket of the oil filter housing was the source of the leak. Oil leaking from the gasket was contained. However an area of 19' x 14' was stained with motor oil. Refuge staff removed the soil to a depth of approximately 2 inches. The soil was then transported to a landfill. The amount of oil that leaked was approximately 3 gallons.



Source of Oil Leak



Area of Oil Leak

J. OTHER ITEMS

1. Cooperative Programs
2. Other Economical Uses – Nothing to Report

3. Items of Interest – Nothing to Report

Visitor Services Specialist Marty McClevey recertified for his State of Virginia Certified Pesticide Applicator's license in January at the 4H training center in Front Royal, Virginia. A general licensing was obtained along with certification in the category of Forestry. This certification enabled the refuge to continue with a Pesticide Use Plan and continue the eradication of specific invasive-exotic plants as Japanese knotweed and mile-a-minute weed. McClevey conducted spraying at several locations on the refuge and provided oversight for the Mason Neck State Park spray program.

Habitat management staff day to remove trees from entry road field. Daffny, Greg, Steve, Marty, Cindy

4. Credits – Nothing to Report

K. FEEDBACK – Nothing to Report

FEATHERSTONE NATIONAL WILDLIFE REFUGE Woodbridge, Virginia

INTRODUCTION

Featherstone National Wildlife Refuge is an unmanned station and is located 4 miles southwest of Mason Neck at the mouth of Neabsco Creek where it joins the Potomac River. The refuge is approximately 22 miles from Washington, D.C., in Prince William County, Virginia.

Acquired in 1979 from the District of Columbia, Featherstone NWR was originally proposed to be one of a 17 unit Potomac Estuary National Wildlife Refuge Complex. No additional Federal acquisitions were made after this plan was proposed in 1970 except Marumsco NWR until 1998. The additional land was added to Marumsco NWR, creating Occoquan Bay NWR. This addition changed Elizabeth Hartwell Mason Neck National Wildlife Refuge and its satellites (Featherstone and Marumsco NWR) into a complex.

Featherstone NWR contains 325 acres of woodland and freshwater tidal marsh along the northern shore and mouth of Neabsco Creek and north around Featherstone Point along Occoquan Bay. Topography is almost entirely flat on the east side with patches of bottom land hardwoods and tidal marsh. The Richmond, Fredericksburg and Potomac Railroad bisects the Refuge from north to south with built up elevations of 80 feet separating the east from the west with its series of sharply incised peninsulas. An abandoned railroad grade also traverses the Refuge, impacting the refuge with the compacted roadbed, castoff slag and coal from early train use, and channeling some of the drainage into vernal pools and swamps. Farm Creek passes through the northeastern portion of the Refuge before draining into Occoquan Bay and the Potomac River.

Official access is by two meandering right-of-ways, neither of which is accessible to vehicles. The staff utilize the commuter rail station built next to the refuge as a way to cross the tracks and gain quicker access to the refuge as an improvement of when they use to walk the tracks to get to the refuge without having to cross creeks and vernal unauthorized activity does occur. Refuge staff have received various reports of illegal hunting, trapping, and camping. Staff visits have been able to confirm presence of such activity but not the level due to poor accessibility and limited staff time.

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A. HIGHLIGHTS

Featherstone NWR during cold conditions

B. CLIMATIC CONDITIONS

See Elizabeth Hartwell Mason Neck NWR for details.

C. LAND ACQUISITION

1. Fee Title – Nothing to Report
2. Easements – Nothing to Report

3. Other – Nothing to Report

D. PLANNING

1. Master Plan – Nothing to Report
2. Management Plan – Nothing to Report
3. Public Participation – Nothing to Report
4. Compliance with Environmental Mandates – Nothing to Report
5. Research and Investigations – Nothing to Report
6. Other

E. ADMINISTRATION

1. Personnel

See Elizabeth Hartwell Mason Neck NWR

2. Youth Programs – Nothing to Report
3. Other Manpower Programs
4. Volunteer Program

On Saturday March 28, 2009, Marty McClevey worked with Joan Patterson, President of the Friends of the Potomac River Refuges, to coordinate a cleanup on the Featherstone National Wildlife Refuge. Joan, an education specialist with the Prince William County Soil and Water Conservation District, linked this cleanup with the State Department of Conservation and Recreation's Adopt a Stream program. The DCR provided gloves and bags for the cleanup and the Prince William County Service Authority transported the accumulated trash to the landfill. Heavy rains overnight made access to the trails and marsh sites difficult but 14 volunteers endured the ankle deep water and thick undergrowth to remove an incredible amount of glass, plastic, fishing line, food containers, tires and clothing. This was the second annual cleanup of the Featherstone National Wildlife Refuge, hosted by the Friends of the Potomac River Refuges.

5. Funding – See Elizabeth Hartwell Mason Neck
6. Safety – Nothing to Report
7. Technically Assistance – Nothing to Report
8. Other Items – Nothing to Report

F. HABITAT MANAGEMENT

1. General

Featherstone Refuge presently consists of 325 acres of which 80 acres are forested upland, 220 acres are palustrine wetland, and 25 acres are open water. This area is a tidally influence freshwater wetland. The portions of “Hidden Lake”, the main portion of Farm Creek running through the refuge was at one time diked, presumably for fisheries management in the late 1800's or early 1900's. This dike has deteriorated to a few pilings in the water and short earthen section that is no barrier to water, wildlife, or boaters.

2. Wetlands

The forested wetland sections of the refuge are comprised of red maple, sweetgum, yellow poplar and water willow. Emergent marsh is located mainly on the southern section of the property.

3. Forests

The pockets of upland forest scattered throughout the refuge are at or near climax stage and are comprised mostly of mixed oak species with Virginia and loblolly pine. In most areas there is little ground cover. Areas bordering Neabsco Creek consist of steep slopes with an understory of mountain laurel.

4. Croplands – Nothing to Report

5. Grasslands – Nothing to Report

6. Other Habitats – Nothing to Report

7. Grazing – Nothing to Report

8. Haying – Nothing to Report

9. Fire Management – Nothing to Report

10. Pest Control – Nothing to Report

11. Water Rights – Nothing to Report

12. Wilderness and Special Areas – Nothing to Report

13. WPA Easement Monitoring – Nothing to Report

G. WILDLIFE

1. Wildlife Diversity

The refuge provides important wintering and nesting habitat for waterfowl, wading birds and shorebirds. Wintering and migrating waterfowl include black duck, mallard, blue-winged teal, wood duck, hooded merganser, green-winged teal, gadwall, and lesser scaup. The dense and diverse marsh vegetation attracts many wading birds including great blue heron, great egret and

double-crested cormorants. Osprey, red-tailed and red shouldered hawks, northern harrier, kestrel, and Cooper's hawks have all used the Refuge.

2. Endangered and/or Threatened Species

Bald eagles are frequently observed using the refuge. The shoreline provides important feeding and perching habitat. The pair that nested on Featherstone initially nested in the swamp area between the railroad tracks and the river just above the mouth of Neabsco Creek. They moved the next year to a chestnut oak on the third peninsula in from the railroad bridge, and after three years moved west, possibly onto the neighboring developer's land and then back out to near the first site. Their last several locations were not productive and their current status is unknown.

3. Waterfowl – Nothing to Report

4. Marsh and Water Birds

Great blue herons are commonly seen on Featherstone Refuge. Other birds in this group which utilize the refuge include egrets and double-crested cormorants.

5. Shorebirds, gulls, Terns, and Allied Species

Due to the dense vegetation, mostly forest, the most likely places to observe species in this group is just off the refuge in the waters of the Occoquan Bay and Potomac River. Mudflats exposed at low tide are high in fine sediments and anaerobic, producing little vegetation or fauna to attract birds for feeding and unattractive for loafing.

6. Raptors

Osprey, red-tailed and red-shouldered hawks, northern harrier, kestrel, and Coopers hawks have been recorded on the refuge.

7. Other Migratory Birds

A special use permit was issued for both fiscal years to a concerned citizen wanting to install and maintain nest boxes on the refuge due to the closeness in proximity to other locations/properties where he already had nest boxes up and in use.

8. Game Mammals

White-tailed deer, red fox, raccoon, gray squirrel, and beaver all use the refuge.

9. Marine Mammals – Nothing to Report

10. Other Resident Wildlife – Nothing to Report

11. Fisheries Resources – Nothing to Report

12. Wildlife Propagation and Stocking – Nothing to Report

13. Surplus Animal Disposal – Nothing to Report

14. Scientific Collections – Nothing to Report
15. Animal Control – Nothing to Report
16. Marking and Banding – Nothing to Report
17. Disease Prevention and Control – Nothing to Report

H. PUBLIC USE

1. General – Nothing to Report
2. Outdoor Classrooms – Students – Nothing to Report
3. Outdoor Classrooms – Teachers – Nothing to Report
4. Interpretive Foot Trails – Nothing to Report
5. Interpretive Tour Routes – Nothing to Report
6. Interpretive Exhibits and Demonstrations – Nothing to Report
7. Other Interpretive Programs – Nothing to Report
8. Hunting – Nothing to Report
9. Fishing – Nothing to Report
10. Trapping – Nothing to Report
11. Wildlife Observation – Nothing to Report
12. Other Wildlife Oriented Recreation – Nothing to Report
13. Camping – Nothing to Report
14. Picnicking – Nothing to Report
15. Off-Road Vehicling – Nothing to Report
16. Other Non-Wildlife Oriented Recreation – Nothing to Report
17. Law Enforcement

For the third year in a row, Featherstone NWR boasts the highest number of incidents of any of the three refuges within the Potomac River NWR Complex. Featherstone is the smallest of the three refuges, at 325 acres, but due to its location and difficult accessibility, it is a magnet for illegal activity.



Dumping at Featherstone, 10-01-08

Refuge law enforcement was able to issue violation notices to some of these dumping violators and get the refuge cleaned up. Dumping will be one of the focuses for Featherstone in 2009.

The biggest problems at Featherstone NWR continue to focus around the illegal fishing activity along the Potomac River shoreline during the warmer months. The refuge is closed to all public access, therefore trespassing, violating refuge area fishing regulations, litter, illegal fires, etc. are the most common problems for refuge law enforcement staff. ATV use and general off-roading activity were much less in 2009, however, it continues to be an issue on the northern access road into the refuge. Staff hopes to get a heavy gate installed in 2010 to help prevent such occurrences. There were no deer poaching cases made in 2009 for refuge law enforcement staff.



Illegal Fish Taken @ Featherstone NWR by Trespassers, 04/29/09.



18. Cooperating Associations – Nothing to Report

I. EQUIPMENT AND FACILITIES

1. New Construction - Nothing to Report
2. Rehabilitation – Nothing to Report
3. Major Maintenance – Nothing to Report
4. Equipment Utilization and Replacement – Nothing to Report
5. Communication Systems – Nothing to Report
6. Computer Systems

See Elizabeth Hartwell Mason Neck NWR: E.7 – Technical Assistance

7. Energy Conservation – Nothing to Report

8. Other – Nothing to Report

J. OTHER ITEMS

1. Cooperative Programs – Nothing to Report

2. Other Economic Uses – Nothing to Report

3. Items of Interest – Nothing to Report

4. Credits

Everyone on the staff contributed to the writing of this report. Manager Weiler reviewed and signed it. Refuge Staff and Refuge Volunteers Bill Wallen and Cindy Kretikos contributed the pictures.

K. FEEDBACK – Nothing to Report